

Work Order ID 153191

Wednesday, November 09, 2016 12:45:25 P

153191

Page 1

Item ID: 647.7701

Revision ID:

Item Name: Strut Assembly

Start Date: 11/10/2016 Start Qty: 5.00

Required Date: 11/15/2016 Req'd Qty: 5.00

Reference:

Approvals: Process Plan: VS Date: 11/11/16

QC: _____ Date: _____

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Cust Item ID:

Customer:

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
647.7700	A2								
110	Pick Kit	0.00				5		16-12-06	ja
110									
Packaging	Memo	0.02							
Packaging									
120	Weld per dwg A/R 4130 rod Batch 127925	0.00						16-12-06	ja
120									
Large Fab	Memo	0.20							
Large Fab	1- ASSEMBLE AND WELD AS PER DWG								
	***IMPORTANT DIMENSION IS 23.75" ***								
130	QC9- Inspect visual per QSI004- Fusion Welds	0.00							
130									
QC	Memo	0.02							
Quality Control									

Strut nr 29

647.7701
B153191
REV A2

DAS
9
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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OTHER : ☐																					

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Page 2

N900040100

Setup Start *NS1*

Stop ***NS2***

Cust Item ID:

5

5

Customer:

Reference:

Run Start *NR1*

Stop *NR2*

**Insp.
Stamp**

0.00

0.02

⑤ 16-12-06
inspected with
Go/no Go

**DAS
9
9-89**

0.00

209.16

Issue P/O : 34576
C of C is required

PLEASE NOTE ON PO:
Apply only Class 3 Cad to the threaded are only
CAD PLATE SHOULD NOT BE TOO THICK AROUND THREAD

5 DEC 08 2016

0.00

0.02

5x Sp16-1219.

Packaging

DQA: _____ Date: _____



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DQA: _____ Date: _____



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Work Order update only ☐

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Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
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				Completed By	
				Lead hand / Supervisor Approval Verification	
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Work Order ID 153191

Wednesday, November 09, 2016 12:45:25 P

153191

Page 4

Item ID: 647.7701

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Strut Assembly

Start Date: 11/10/2016 Start Qty: 5.00

5

Cust Item ID:

Required Date: 11/15/2016 Req'd Qty: 5.00

5

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

NR1

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

200

Identify as per dwg & Stock Location

CCK114

0.00

200

Packaging

Memo

0.02

Packaging

S

JAN 16 2017

DAS

6

9-89

210

QC21- Final Inspection - Work Order Release

0.00

210

QC

Memo

0.08

Quality Control

DAS

21

9-89

JAN 16 2017

DAS

21

9-89

JAN 16 2017

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OTHER :																																																																							

Picklist Print

Wednesday, November 09, 2016 12:45:35 PM

Page 1 / 1

Work Order ID: 153191

153191

Parent Item: 647.7701

647 7701

Parent Item Name: Strut Assembly

Start Date: 11/10/2016

Required Date: 11/15/2016

Start Qty: 5.00

Required Qty: 5.00

Comments: IPP REV:A 12.11.01 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
647.7710 *647 7710* Strut Tube		Manufactured	No				Each	4.0000	**	5			
					<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>			
					WA002 153684			4		3			
					138451			2					
					141105 153840			2		2			
647.7712 *647 7712* Strut Tube		Manufactured	No				Each	33.0000	**	5			
					<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>			
					WA002			33		5			
					145176			33					
647.7713 *647 7713* Strut Thread		Manufactured	No				Each	17.0000	**	5			
					<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>			
					WA002 153687			17		5			
					145177			2					
					148267			15					

16-12-06
JLM

16-12-06
JLM

16-12-06
JLM

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QS1042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong				
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions				
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance				
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect				
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing				
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved				
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing				
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish				
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread				
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence				
Past Expiry Date ☐	☐ Manufacturing Process	OTHER :							
Misidentified ☐	☐ Past Due								



APICAL INDUSTRIES, INC.
dba DART AEROSPACE

TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

ENGINEERING CHANGE NOTICE NO.

05397

SHEET 1 OF 1

DWG NO. 647.7700

REV: A

PREPARED
BY

T. CROSS

DATE: 05/02/16

EFFECT ON DWG

☐ INC. ☒ UNINC.

DWG TITLE: STRUT ASSY

APPROVED BY:

ENGR

MFG

QC

EFF:

CURRENT ORDER

REASON: REVISED DIMENSION

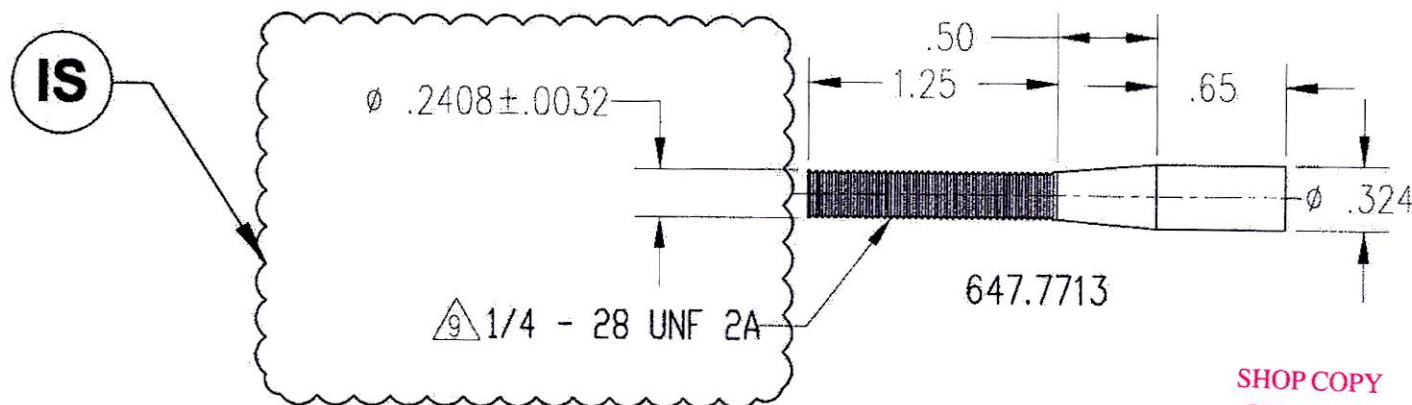
ECR:

16-028

ACTION LIST:

1.

SHEET 2, ZONE D4 IS:



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 153191

VLL
62
16/11/9

DOCUMENTS EFFECTED:

☐ PATTERN

☐ MDL

☐ INSTALL INSTRU

☐ ICA

☐ BOM

CHANGE CATEGORY

☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED

☐ YES

☒ NO

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐			
Design ☐	☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐			
Doc/Data ☐	☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐			
Equip/Tooling ☐	☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐			
Handling/Pre ☐	☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐			
Material ☐	☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐			
Internal Transport ☐	☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐			
Tribal Knowledge ☐	☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐			
LOA ☐	☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐			
Substation ☐	☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐			
Past Expiry Date ☐	☐	Manufacturing Process ☐							
Misidentified ☐	☐	Past Due ☐	OTHER :						



APICAL INDUSTRIES, INC.
dba DART AEROSPACE

ENGINEERING CHANGE NOTICE NO.

DWG NO. 647.7700

REV: A

05110

SHEET 1 OF 1

DWG TITLE: STRUT ASSY

PREPARED BY

A. QUAN

DATE: 08/21/15

EFFECT ON DWG

☐ INC. ☒ UNINC.

TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

APPROVED BY: ENGR

MFG

QC

REASON: REVISED FINISH CALLOUT AS PER ECR 15-209

EFF. CURRENT ORDER

SHEET 1, NOTES IS:

NOTES:

ACTION: UPDATE MO & WO

- 1 MATERIAL: 4130 STEEL PER AMS-T-6736, .50" OD, .083" WALL THK.
- 2 MATERIAL: 4130 STEEL PER AMS-T-6736, .375" OD, .075" WALL THK.
- 3 MATERIAL: 4130 STEEL PER AMS-T-6736, .324" OD.
- 4 FINISH: PRIME IAW MIL-P-2337J TYPE I CLASS N; 1-2 MIL MAX
5. DEBURR AND BREAK ALL SHARP EDGES
6. IDENTIFY IAW MPP-120.
- 7 WELD IAW MIL-STD-2219. TIG WELD WITH FILLER ROD
- 8 FINISH: CAD PLATE IAW QQ-P-416F CLASS I TYPE II
- 9 MASK THREAD PRIOR TO FINISH

F/N/TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL/SPECIFICATION
--------	-------------	-----	-------------	------------------------

DOCUMENTS EFFECTED:

☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☐ BOM

CHANGE CATEGORY

☐ MAJOR ☐ MINOR

DER REVIEW REQUIRED

☐ YES ☐ NO

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only ☐

QA Closed: _____ Date: _____

DISPOSITION

Work Order: _____
Part No. _____
NCR No. _____

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐
Machining ☐
Thermoforming ☐
Large Fab ☐
Cross tube ☐
Small Fab ☐
Finishing ☐
Composite ☐
Water Jet ☐
Prod. Eng. Coord. ☐
Rec/Store/Packaging ☐
Supplier ☐
Engineering ☐
Quality ☐
Other ☐

MRB (QSI042) Approval

Date: _____ Step #: _____

QTY Effective: _____

Description Work Order Deviation

Disposition

Completed By

Lead hand / Supervisor
Approval Verification

QC / QA Coordinator
Approval

FAULT CATEGORY

Root Cause

Environment ☐
Design ☐
Doc/Data ☐
Equip/Tooling ☐
Handling/Pre ☐
Material ☐
Internal Transport ☐
Tribal Knowledge ☐
LOA ☐
Substation ☐
Past Expiry Date ☐
Misidentified ☐
No Re-verification ☐
Operator ☐
Offset/Setup ☐
Supplier ☐
Training ☐
Use for Testing ☐
Poor Information ☐
Rushing ☐
Product Improvement ☐
Process Improvement ☐
Manufacturing Process ☐
Past Due ☐

Pressure/Forced ☐
Bending ☐
Centre Not Concentric ☐
Cracks ☐
Crimp/Kink/Ripple/Wave ☐
Cuffs ☐
Crushing ☐
Heat Treat ☐
Wave/Twist in Tube ☐
Marks/Chatter ☐

Temperature/Cure ☐
Set-up ☐
BOM/Route ☐
Broken/Damage/Defect ☐
Inspection Incomplete/Unqualified ☐
Contamination ☐
Countersink ☐
Cut Too Short ☐
Instructions Incomplete/Unclear ☐
Drill Holes ☐

Power Loss/Surge ☐
Folio/Program ☐
Grain ☐
Weld ☐
Wrong Stock Pulled ☐
Out of Sequence ☐
Off-set ☐
Mislabeled ☐
Fit/Function ☐
Misaligned/off center ☐

Positioned Wrong ☐
Outside Dimensions ☐
Over/Under tolerance ☐
Part Incorrect ☐
Part Lost/Missing ☐
Part Moved ☐
Drawing ☐
Finish ☐
Misread ☐
Turning Sequence ☐

OTHER: _____

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NOTES:

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2. MATERIAL: 4130 STEEL PER AMS-T-6736, .375" OD, .075" WALL THK.
3. MATERIAL: 4130 STEEL PER AMS-T-6736, .324" OD.
4. FINISH: PRIME IAW MIL-P-2337J TYPE I CLASS N; 1-2 MIL MAX
5. DEBURR AND BREAK ALL SHARP EDGES
6. IDENTIFY IAW MPP-120.
7. WELD IAW MIL-STD-2219, TIG WELD WITH FILLER ROD
8. FINISH: CAD PLATE IAW MIL-C-5541 CLASS 1A
9. MASK THREAD PRIOR TO FINISH

REV	DESCRIPTION	DATE	APPROVED
1	LAST PROTOTYPE REVISION INC		NIC
N/C	INITIAL RELEASE	12/02/09	P. BRAVO
A	INCORPORATED ECN DATE:	11/13/14	P. BRAVO

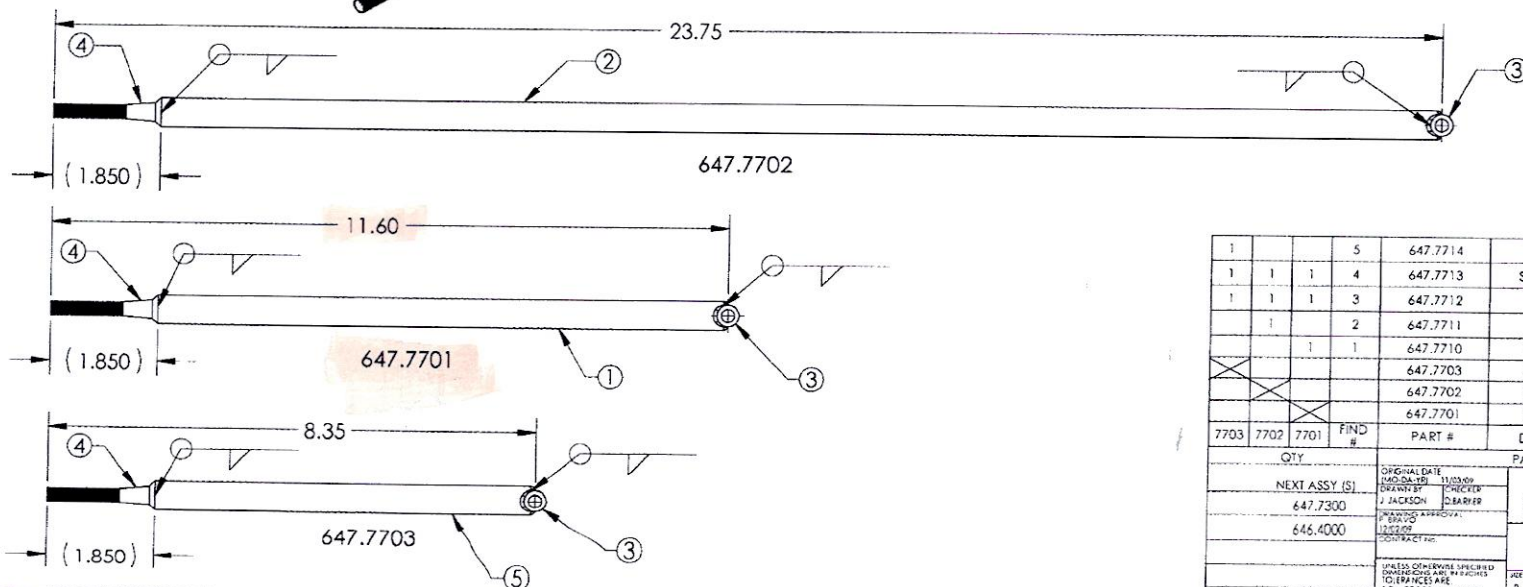
647.7701

647.7703

647.7702

UNINCORPORATED ECN(s)

05110, 05397



1			5	647.7714	STRUT TUBE	△	
1	1	1	4	647.7713	STRUT THREAD	△	△
1	1	1	3	647.7712	STRUT TUBE	△	
	1		2	647.7711	STRUT TUBE	△	
		1	1	647.7710	STRUT TUBE	△	
				647.7703	STRUT ASSY		△△
				647.7702	STRUT ASSY		△△
				647.7701	STRUT ASSY		△△
7703	7702	7701	FIND #	PART #	DESCRIPTION	MATL	SPEC.
QTY					PARTS LIST		
NEXT ASSY (S)					APICAL INDUSTRIES		
647.7300					2408 TEMPLE HEIGHTS DR.		
646.4000					OCEANSIDE, CA. 92056-3512 (760) 724-5300		
ORIGINAL DATE 11/03/00 DRAWN BY J. JACKSON CHECKED J. BARNER INVOICE NUMBER 014010 ORDER CONTRACT NO.					STRUT ASSY		
(READ OR SHIPMENT SPECIFIED TO FIRST ORDER) 2 PLACE DECKS (A + B) 2 PLACE DECKS (C + D) 2 PLACE DECKS (E + F) 2 PLACE DECKS (G + H) 2 PLACE DECKS (I + J) 2 PLACE DECKS (K + L) 2 PLACE DECKS (M + N) 2 PLACE DECKS (O + P) 2 PLACE DECKS (Q + R) 2 PLACE DECKS (S + T) 2 PLACE DECKS (U + V) 2 PLACE DECKS (W + X) 2 PLACE DECKS (Y + Z) 2 PLACE DECKS (AA + AB) 2 PLACE DECKS (AC + AD) 2 PLACE DECKS (AE + AF) 2 PLACE DECKS (AG + AH) 2 PLACE DECKS (AI + AJ) 2 PLACE DECKS (AK + AL) 2 PLACE DECKS (AM + AN) 2 PLACE DECKS (AO + AP) 2 PLACE DECKS (AQ + AR) 2 PLACE DECKS (AS + AT) 2 PLACE DECKS (AU + AV) 2 PLACE DECKS (AW + AX) 2 PLACE DECKS (AY + AZ) 2 PLACE DECKS (BA + BB) 2 PLACE DECKS (BC + BD) 2 PLACE DECKS (BE + BF) 2 PLACE DECKS (BG + BH) 2 PLACE DECKS (BI + BJ) 2 PLACE DECKS (BK + BL) 2 PLACE DECKS (BM + BN) 2 PLACE DECKS (BO + BP) 2 PLACE DECKS (BQ + BR) 2 PLACE DECKS (BS + BT) 2 PLACE DECKS (BU + BV) 2 PLACE DECKS (BW + BX) 2 PLACE DECKS (BY + BZ) 2 PLACE DECKS (CA + CB) 2 PLACE DECKS (CC + CD) 2 PLACE DECKS (CE + CF) 2 PLACE DECKS (CG + CH) 2 PLACE DECKS (CI + CJ) 2 PLACE DECKS (CK + CL) 2 PLACE DECKS (CM + CN) 2 PLACE DECKS (CO + CP) 2 PLACE DECKS (CQ + CR) 2 PLACE DECKS (CS + CT) 2 PLACE DECKS (CU + CV) 2 PLACE DECKS (CW + CX) 2 PLACE DECKS (CY + CZ) 2 PLACE DECKS (DA + DB) 2 PLACE DECKS (DC + DD) 2 PLACE DECKS (DE + DF) 2 PLACE DECKS (DG + DH) 2 PLACE DECKS (DI + DJ) 2 PLACE DECKS (DK + DL) 2 PLACE DECKS (DM + DN) 2 PLACE DECKS (DO + DP) 2 PLACE DECKS (DQ + DR) 2 PLACE DECKS (DS + DT) 2 PLACE DECKS (DU + DV) 2 PLACE DECKS (DW + DX) 2 PLACE DECKS (DY + DZ) 2 PLACE DECKS (EA + EB) 2 PLACE DECKS (EC + ED) 2 PLACE DECKS (EE + EF) 2 PLACE DECKS (EG + EH) 2 PLACE DECKS (EI + EJ) 2 PLACE DECKS (EK + EL) 2 PLACE DECKS (EM + EN) 2 PLACE DECKS (EO + EP) 2 PLACE DECKS (EQ + ER) 2 PLACE DECKS (ES + ET) 2 PLACE DECKS (EU + EV) 2 PLACE DECKS (EW + EX) 2 PLACE DECKS (EY + EZ) 2 PLACE DECKS (FA + FB) 2 PLACE DECKS (FC + FD) 2 PLACE DECKS (FE + FF) 2 PLACE DECKS (FG + FH) 2 PLACE DECKS (FI + FJ) 2 PLACE DECKS (FK + FL) 2 PLACE DECKS (FM + FN) 2 PLACE DECKS (FO + FP) 2 PLACE DECKS (FQ + FR) 2 PLACE DECKS (FS + FT) 2 PLACE DECKS (FU + FV) 2 PLACE DECKS (FW + FX) 2 PLACE DECKS (FY + FZ) 2 PLACE DECKS (GA + GB) 2 PLACE DECKS (GC + GD) 2 PLACE DECKS (GE + GF) 2 PLACE DECKS (GG + GH) 2 PLACE DECKS (GI + GJ) 2 PLACE DECKS (GK + GL) 2 PLACE DECKS (GM + GN) 2 PLACE DECKS (GO + GP) 2 PLACE DECKS (GQ + GR) 2 PLACE DECKS (GS + GT) 2 PLACE DECKS (GU + GV) 2 PLACE DECKS (GW + GX) 2 PLACE DECKS (GY + GZ) 2 PLACE DECKS (HA + HB) 2 PLACE DECKS (HC + HD) 2 PLACE DECKS (HE + HF) 2 PLACE DECKS (HG + HH) 2 PLACE DECKS (HI + HJ) 2 PLACE DECKS (HK + HL) 2 PLACE DECKS (HM + HN) 2 PLACE DECKS (HO + HP) 2 PLACE DECKS (HQ + HR) 2 PLACE DECKS (HS + HT) 2 PLACE DECKS (HU + HV) 2 PLACE DECKS (HW + HX) 2 PLACE DECKS (HY + HZ) 2 PLACE DECKS (IA + IB) 2 PLACE DECKS (IC + ID) 2 PLACE DECKS (IE + IF) 2 PLACE DECKS (IG + IH) 2 PLACE DECKS (II + IJ) 2 PLACE DECKS (IK + IL) 2 PLACE DECKS (IM + IN) 2 PLACE DECKS (IO + IP) 2 PLACE DECKS (IQ + IR) 2 PLACE DECKS (IS + IT) 2 PLACE DECKS (IU + IV) 2 PLACE DECKS (IW + IX) 2 PLACE DECKS (IY + IZ) 2 PLACE DECKS (JA + JB) 2 PLACE DECKS (JC + JD) 2 PLACE DECKS (JE + JF) 2 PLACE DECKS (JG + JH) 2 PLACE DECKS (JI + JJ) 2 PLACE DECKS (JK + JL) 2 PLACE DECKS (JM + JN) 2 PLACE DECKS (JO + JP) 2 PLACE DECKS (JQ + JR) 2 PLACE DECKS (JS + JT) 2 PLACE DECKS (JU + JV) 2 PLACE DECKS (JW + JX) 2 PLACE DECKS (JY + JZ) 2 PLACE DECKS (KA + KB) 2 PLACE DECKS (KC + KD) 2 PLACE DECKS (KE + KE) 2 PLACE DECKS (KG + KH) 2 PLACE DECKS (KI + KJ) 2 PLACE DECKS (KK + KL) 2 PLACE DECKS (KM + KN) 2 PLACE DECKS (KO + KP) 2 PLACE DECKS (KQ + KR) 2 PLACE DECKS (KS + KT) 2 PLACE DECKS (KU + KV) 2 PLACE DECKS (KW + KX) 2 PLACE DECKS (KY + KZ) 2 PLACE DECKS (LA + LB) 2 PLACE DECKS (LC + LD) 2 PLACE DECKS (LE + LE) 2 PLACE DECKS (LG + LH) 2 PLACE DECKS (LI + LJ) 2 PLACE DECKS (LK + LL) 2 PLACE DECKS (LM + LN) 2 PLACE DECKS (LO + LP) 2 PLACE DECKS (LQ + LR) 2 PLACE DECKS 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+ SD) 2 PLACE DECKS (SE + SE) 2 PLACE DECKS (SG + SH) 2 PLACE DECKS (SI + SJ) 2 PLACE DECKS (SK + SL) 2 PLACE DECKS (SM + SN) 2 PLACE DECKS (SO + SP) 2 PLACE DECKS (SQ + SR) 2 PLACE DECKS (SS + ST) 2 PLACE DECKS (SU + SV) 2 PLACE DECKS (SW + SX) 2 PLACE DECKS (SY + SZ) 2 PLACE DECKS (TA + TB) 2 PLACE DECKS (TC + TD) 2 PLACE DECKS (TE + TE) 2 PLACE DECKS (TG + TH) 2 PLACE DECKS (TI + TJ) 2 PLACE DECKS (TK + TL) 2 PLACE DECKS (TM + TN) 2 PLACE DECKS (TO + TP) 2 PLACE DECKS (TQ + TR) 2 PLACE DECKS (TS + TT) 2 PLACE DECKS (TU + TV) 2 PLACE DECKS (TW + TX) 2 PLACE DECKS (TY + TZ) 2 PLACE DECKS (UA + UB) 2 PLACE DECKS (UC + UD) 2 PLACE DECKS (UE + UE) 2 PLACE DECKS (UG + UH) 2 PLACE DECKS (UI + UJ) 2 PLACE DECKS (UK + UL) 2 PLACE DECKS (UM + UN) 2 PLACE DECKS (UO + UP) 2 PLACE DECKS (UQ + UR) 2 PLACE DECKS (US + UT) 2 PLACE DECKS (UU + UV) 2 PLACE DECKS (UW + UX) 2 PLACE DECKS (UY + UZ) 2 PLACE DECKS (VA + VB) 2 PLACE DECKS (VC + VD) 2 PLACE DECKS (VE + VE) 2 PLACE DECKS (VG + VH) 2 PLACE 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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

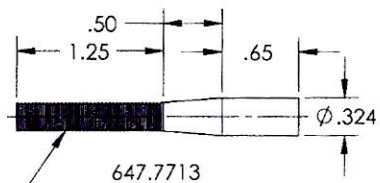
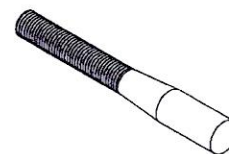
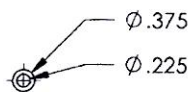
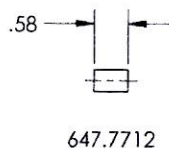
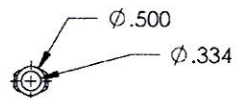
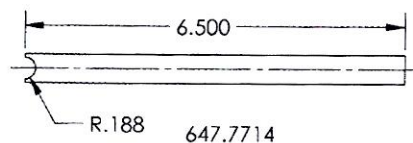
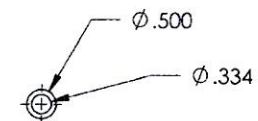
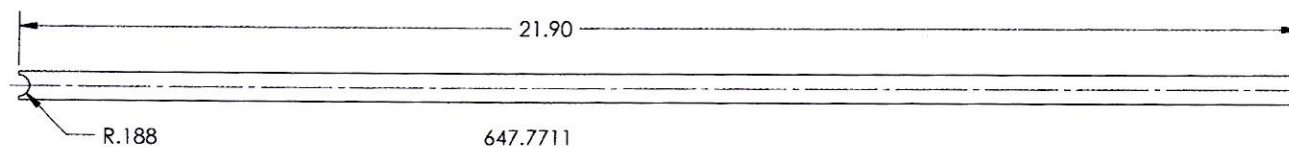
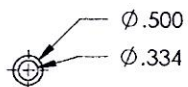
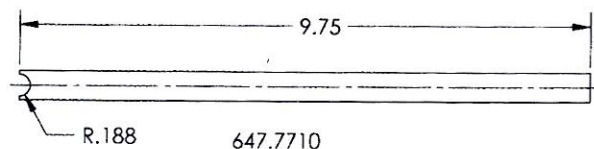
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation		Disposition			

Root Cause			FAULT CATEGORY		
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐				

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1/4 - 28 THREAD

ORIGINAL DATE (MM/DD/YY)		11/03/00	
DRAWN BY J. JACKSON		CHECKED D. BARKER	
DRAWING APPROVAL P. BRAYO			
CONTRACT NO.			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1. PLACE DECIMALS 2.01 2. PLACE DECIMALS 8.00 3. PLACE DECIMALS 8.00 ANGLES ± .5°		REV. CODE	REV.
8		07/01/00	A
SCALE: NONE		DWG. NO. 647.7700	SHEET 2 OF 2

APICAL INDUSTRIES
2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA, 92056-3512 (760)724-5300

STRUT ASSY

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
5265h1 5265h1				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO34576

Purchase Order Date 12/8/2016

PO Print Date 12/8/2016

Page Number 1 of 2

Order From :
GROUP ALTECH
2455 HALPERN

ST LAURENT, MONTREAL H4S 1N9

VC-ALT01

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

MADE DEC 08 2016

Contact Name
Vendor Phone 514-335-3666

Ship To Contact
Ship To Phone
Ship Via: FedEx Overnight collect
Ship Acct:

Buyer
Customer POID
Customer Tax # 10127-2607
Terms Net 30
Currency CAD
FOB FOB Origin

Line Nbr	Reference Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
	Line Comments		Promise Date				
	Delivery Comments						
1	153191	647.7701 STRUT	12/22/2016 Yes 12/22/2016		5.00	\$9.75	\$48.75

Cad Plating is to be done per QQ-P-416F Class I Type II.
PLEASE NOTE: HYDROGEN EMBRITTLEMENT IS INCLUDED IN PRICING PER UNIT
CAD PLATE SHOULD NOT BE TOO THICK AROUND TRHREAD

8916-12-19

Line Total: \$48.75

2	147297	647.7702 STRUT	12/22/2016 Yes 12/22/2016		7.00	\$9.75	\$68.25
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Cad Plating is to be done per QQ-P-416F Class I Type II.
PLEASE NOTE: HYDROGEN EMBRITTLEMENT IS INCLUDED IN PRICING PER UNIT
CAD PLATE SHOULD NOT BE TOO THICK AROUND TRHREAD

Line Total: \$68.25

Note:

12/8/2016



2455, Halpern, Saint-Laurent, QUÉBEC, H4S 1N9
Tel.:(514)335-3666 Fax.:(514)335-3868
Internet : www.groupaltech.com

Bon de livraison / Packing Slip
et / and
Certificat de conformité / Certificate of Compliance

Bon-Livraison / Pk.Slip # : 123702-1 15/12/2016
Bon-Commande. / W.Order # : 123702
Client P.O. # : 34576
Transport :

Envoyé à / Ship to

DART AEROSPACE LTD
1270 ABERDEEN STREET
HAWKESBURY
ONTARIO, CANADA K6A 1K7

Commandé par / Order by

DART AEROSPACE LTD (1427)
1270 ABERDEEN STREET
HAWKESBURY
ONTARIO, CANADA K6A 1K7

#	No. Job No. Réf	NoSerie / Part Number Nom Produit / Product	Traitement Process	Poids Weight	Qté Qty	Envoyé Sent	A venir BO
1	UNIT	647.7701 Rev.	CADMIUM YELLOW PER QQ-P-416F TY:2 CL:1 + HYDROGEN ENBRITALMENT RELIEF (BAKE)	0.00	5	5	0
2	UNIT	647.7702 Rev.	CADMIUM YELLOW PER QQ-P-416F TY:2 CL:1 + HYDROGEN ENBRITALMENT RELIEF (BAKE)	0.00	7	7	0
3	UNIT	647.7703 Rev.	CADMIUM YELLOW PER QQ-P-416F TY:2 CL:1 + HYDROGEN ENBRITALMENT RELIEF (BAKE)	0.00	8	8	0

Notes Additionnelles / Additional Notes

Epaisseur réelle
Actual Thickness

Inspecteur Qualité
Quality Inspector

Réçu par
Received By

Nous certifions que les pièces énumérées ci-dessus ont été traitées en conformité avec votre commande et vos spécifications et rencontrent les exigences
Notre responsabilité financière et légale ne sera pas supérieure au montant de la facture issue

We hereby certify that the parts listed above have been process in accordance with your purchase order and specifications and are in conformance with your requirements
Our financial and legal responsibility will not be higher than the amount of invoice